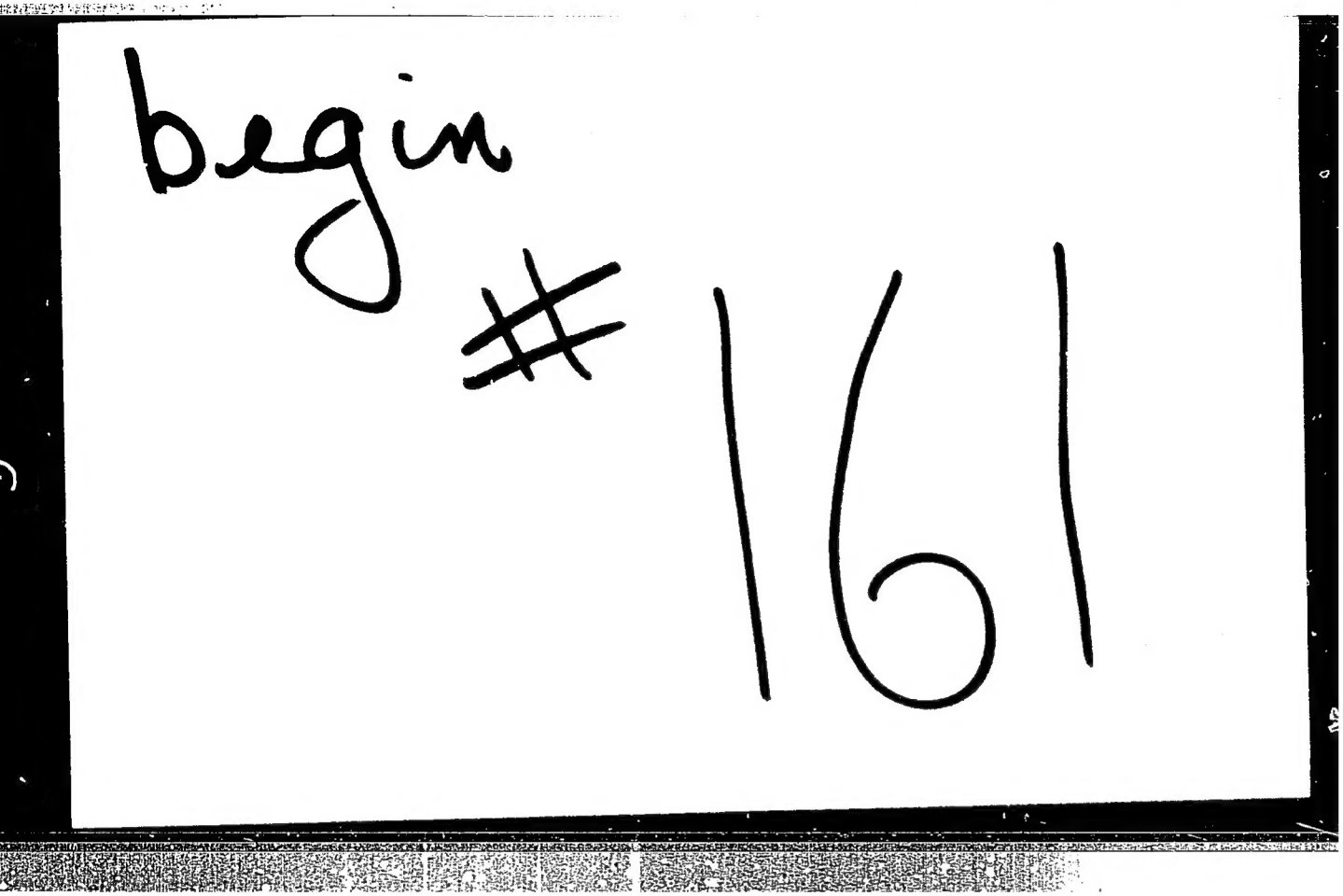

ACC NR: AP7006715 (A,N) SOURCE CODE: UR/0113/66/000/012/0011/0014

AUTHOR: Gorbanevskiy, V. Ye.

ORG: None

TITLE: On the problem of selecting dimensions for the plunger sleeve ports in a high-speed diesel pump

SOURCE: Avtomobil'naya promyshlennost', no. 12, 1966, 11-14

TOPIC TAGS: fuel injection, diesel engine, engine fuel pump

ABSTRACT: A simplified trial and error method is proposed for determining the optimum dimensions of the intake and spill ports for the plunger sleeve in a diesel fuel pump. It is shown that the effective cross sections of the plunger sleeve ports in presently used fuel systems on four-stroke diesels (operating at speeds up to 1500 cycles per minute) may be considerably reduced without impairing the process of filling the pump barrel with fuel. A reduction in the effective cross sectional area of the sleeve ports reduces fuel compressibility losses as well as fuel leakage into the inlet ports during the period from opening of the delivery valve until the inlet ports are closed. Thus the injection process may be made less dependent on speed conditions. At the same time, the fatigue strength of the plunger springs will be increased and cavitation wear of the plunger and sleeve will be reduced with operation on lighter fuels. The

UDC: 621.43.038.001.5

Card 1/2

ACC NR: AP7006715

simplified method proposed by the author for calculation of the charging process gives an easy means for determining the optimum dimensions of plunger sleeve ports from the standpoint of efficiency in filling the pump barrel with fuel. The proportionate capacity of the intake and spill ports during the charging process may also be evaluated together with the effect of the grade and temperature of the fuel. Orig. art. has: 4 figures, 18 formulas.

SUB CODE: 21/ SUBM DATE: None

Card 2/2

GORBANEVSKIY, V.Ya.

Designing miniature springs for pressure valves of the fuel pumps of high-speed diesel engines. Avt. prom. 30 no.10:19-21 O '64. (MIRA 17:11)

GORBAMEVSKIY, V.Ye.; POLYAKOV, G.D.

Designing the flywheel of a stand for testing diesel engine fuel systems. Avt. prom. 31 no.1:11-13 Ja '64.
(MIRA 18:3)

YERMOLINA, N.M.; GORBANIN, V.P., starshiy gidrogeolog; BOYARSKIY, Ye.V.

Means of controlling underground waters in the Mirgalimsay deposit. Gor. zhur. no.3:9-12 Mr '62. (MIRA 15:7)

1. Rukovoditel' gidrogeologicheskogo byuro kombinata "Achpolimetall" (for Yermolina). 2. Mirgalimsayskiy rudnik (for Gorbanin).
(Mirgalimsay region--Mine water)

GORBANKO, S.S., tekhnik (g. Vorkuta)

Automatic regulator of condensate level in turbine condensers.
Energetik 13 no.10:15 O '65. (MIRA 18:10)

GELINOV, Khr.; GORBANOV, P.; DOCHEV, D.

On clinical value of erythrocyte sedimentation tests in tilted tubes. Suvr. med. 12 no.11:101-107 '61.

1. Iz Katedrata po vutreshni bolesti i terapiia pri VMI [Vissh meditsinski institut] - Sofiia (Rukov. na katedrata prof. Al. Pukhlev).

(BLOOD SEDIMENTATION)

MAYSTROVSKIY, R.B.; GORBANOVSKIY, V.S. (Dnepropetrovsk)

Severe tetraethyl lead poisoning. Vrach. delo no.8:135 Ag'63. (MIRA 16:9)

(LEAD POISONING)

GORBANSKIY, V.V.

137-58-5-9863

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 142 (USSR)

AUTHOR: Gorbanskiy, V.V.

TITLE: Electric Spot Welding of Interior Parts of Heavy-duty Receiver-amplifier Tubes (Elektricheskaya tochechnaya svarka vnutrennikh detaley nadezhnykh priyemno-usilitel'nykh lamp)

PERIODICAL: Tr. N.-i. in-ta. M-vo radiotekhn. prom-sti SSSR, 1957, Nr 6 (42), pp 48-70

ABSTRACT: An examination of problems in the design of electrical spot welders for the electronic-tube industry. It is noted that expulsions cannot be tolerated in spot welds of receiver and amplifier tubes, since they cause short-circuiting between elements of interior parts of the tube. The shortcomings of the Ye. 300.01 serial-production welding machine are listed. The causes of expulsions during welding are listed, and it is established that the power control unit of the welding machine must provide reproducible heat cycles, and the pressure mechanism must provide uniform electrode force. The electrical circuits of machines with individual weld-time regulators, stored-energy capacitor-discharge machines, and machines with a combined form

Card 1/2

137-58-5-9863

Electric Spot Welding (cont.)

of welding heat cycle are examined. Various designs of clamping mechanisms are examined. The major characteristics of the new model A.300.04 universal spot welder, which affords freedom from expuisions of liquid metal, are presented.

I. M.

1. Electron tubes--Production 2. Spot welding--Equipment

Card 2/2

GORBANSKIY, V.V.

SOV/137-58-8-17175

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 139 (USSR)

AUTHORS: Gorbanskiy, V.V., Khudyshev, A.F.

TITLE: A Welding Machine Employs Rollers for Welding of Cathodes (Stanok dlya rolikovoy svarki katodov)

PERIODICAL: Radiotekhn. proiz-vo, 1957, Nr 9, p 22

ABSTRACT: Instead of employing spot welding for the two cathode half-sections, a method was introduced and developed whereby welding is performed by means of rollers in conjunction with a special mandrel and a machine which ensures uniform conditions for welding operations. The introduction of the method described resulted in a 10-12 fold increase in productivity and improved quality of cathodes.

A.K.

1. Cathodes--Spot welding 2. Welding machines--Design

Card 1/1

SOV-135-58-3-14/19

AUTHORS: Kislyuk, F.I., Doctor of Technic· Sciences, Gorbanskiy, V.V., Engineer

TITLE: A New Machine for Spot Welding Parts of Receiver-Amplifier Tubes (Novaya mashina dlya tochechnoy svarki detaley priyëmno-usilitel'nykh lamp)

PERIODICAL: Svarochnoye proizvodstvo, 1958, Nr 3, pp 39-42 (USSR)

ABSTRACT: The existing spot welding machines used in the production of radio-tubes do not eliminate spatter of liquid metal. Investigations were carried out on the expediency of gradually increasing welding current pulse, or of two separate pre-heating pulses without disconnecting the electrodes. Engineers G.A. Bolkhovskaya, A.M. Kupfer and A.F. Khudyshev participated in the work. Three machine circuits were tried: 1) machine with increasing amplitude of the welding pulse (Figure 3) for welding steel, platynite, nickel, etc; 2) a capacitor spot welding machine (Figure 5); 3) a machine with a combined thermal cycle (Figure 7), pre-heating on a.c. and with a gradually growing amplitude. Information includes a description of mechanisms for compressing the electrodes of spot welding machines such as a mechanism with cylindrical spring (Figure 9)

Card 1/2

A New Machine for Spot Welding Parts of Receiver-Amplifier Tubes

and a mechanism with flat springs (Figure 10). On the basis of the experimental investigations performed, a new spot welding machine was developed having an electric circuit with pre-heating by a.c., welding by capacitor discharge and with a flat spring compressing mechanism. The machine (Figure 11), was tested for two years and proved to be satisfactory. It eliminates spatter.
There are 2 graphs, 3 circuit diagrams, 4 oscillograms, 2 diagrams, 1 photo and 1 table.

ASSOCIATION: NII Komiteta radiotekhniki Soveta ministrov SSSR (Scientific Research Institute of the Radio-Engineering Committee of the USSR Council of Ministers)

1. Electron tubes--Spot welding 2. Spot welding--Equipment

SOV-135-58-10-9/19

AUTHORS: Kislyuk, P.I., Doctor of Technical Sciences, Gorbanskiy, V.V., and Khudyshev, A.F., Engineers

TITLE: Precision Automatic Arc Welding in Hydrogen With Non-Fusing Electrodes (Pretsizionnaya avtomaticheskaya dugovaya svarka neplavyashchimsya elektrodom v srede vodoroda)

PERIODICAL: Svarochnoye proizvodstvo, 1958, Nr 10, pp 26-29 (USSR)

ABSTRACT: A new device for the precision welding of thin parts made of heat resistant and other metals and alloys used in the production of cathodes for electric-vacuum devices is described. The welding is done in hydrogen, with a low power arc. Engineers V. Elabakidze, V. Rastopchina and A. Kupfer participated in the work. The new device is described in detail and the approximate technology for welding on direct polarity of different parts according to their thickness and nature of joints is given in a table. In welding tungsten and molybdenum parts, micro-hardness of recrystallized molybdenum attained 210 kg/mm^2 and in individual grains as much as 320 kg/mm^2; micro hardness of porous tungsten

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SOV-135-58-10-9/19

Precision Automatic Arc Welding in Hydrogen With Non-Fusing Electrodes

was equal to 175 kg/mm^2 in the seam center and 200 - 300 kg/mm^2 in the transition zone. There are 3 graphs, 4 photos, 1 table, 1 kinematic and 1 circuit diagram.

1. Tungsten--Welding 2. Molybdenum--Welding 3. Arc welding --Applications 4. Hydrogen--Applications

Card 2/2

GORBANSKIY, V. V., Candidate Tech Sci (diss) -- "Investigation and development of the technology of point electrical welding and soldering of the internal parts of electrical vacuum instruments and the development of new equipment". Moscow, 1959. 12 pp (State Committee of the Council of Ministers USSR on Radio Electronics, State Union Sci Res Inst), 150 copies (KL, No 23, 1959, 165)

22939
S/125/61/000/006/003/010
D040/D112

9.3130
1.2310

AUTHORS: Gorbanskiy, V. V., Shubin, L. V., Khudyshev, A. F. (Moscow)

TITLE: Equipment for precision electron-beam welding of refractory metals and alloys

PERIODICAL: Avtomaticheskaya svarka, no. 6, 1961, 21-30

TEXT: The authors describe a new experimental installation developed for welding refractory metals and alloys by an electron beam in a vacuum. The article contains detailed design information. The unit is shown in a photograph (Fig. 2) and diagram (Fig. 1). It consists of an electron-optic system, i.e. an electronic gun with focusing and deflecting systems; a high-voltage rectifier; one feed unit for the focusing and deflecting system and one for the modulator, a work chamber, a mechanism rotating and moving the workpiece, an evacuating system with a high-vacuum and a forevacuum pump. The electron-optic system (Fig. 3) is attached by a flange to the work chamber. Its parts are connected by vacuum-tight joints with aluminum or copper shims. The cathode leg of the electron gun is fixed in a ceramic bulb and its output terminals connected to a heater, a lanthanum boride

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Equipment for precision electron-beam welding...

cathode, and a focusing and a modulating electrode. The anode unit is a cylindrical water-cooled pipe. The cathode leg is connected to the anode unit by the flange. There are one central and six side holes in the cylinder top. Accelerated electrons move through the central hole and air is evacuated through the side holes. The electron gun is powered from the rectifier and the modulator; the feed source for the focusing and deflecting system is inside the unit; the controls are on the front panel. When the electron gun works with pulses (to obtain higher beam density and to reduce heating), the feed voltage is modulated. Pulses and intervals are adjustable in ten steps between 0.01 and 1.2 sec. The 20 cubic decimeter capacity work chamber is cylindrical, welded from stainless 1Kh18N9T (1Kh18N9T) steel. Replaceable workpiece holding devices are provided for welding circular and straight seams. A vacuum of $8 \cdot 10^{-5}$ mm Hg is maintained in the chamber. The gun system is shown in a diagram (Fig. 4). Boride cathodes are used because of their stability at high current densities (above 10 amp/cm^2) and because they require no activation time. Heating to 1600°C is sufficient for steady operation of the cathode. The work life of most of the boride cathodes is 250-300 hours. The replaceable lanthanum boride cathodes have active surface diameters of 3.0, 4.2 and 5.4 mm. A tungsten wire

Equipment for precision electron-beam welding...

spiral is used for heating the cathodes. Three different electron guns are designed for cathodes of different diameters. Power can be varied over a wide range. Practically all refractory metals with a thickness of 0.005 to 5 mm can be welded. The distance from the anode outlet to work surface is 340 mm, because of the size of the work chamber. The focusing system is a magnetic lens, i.e. a rectangular coil, a portion of which is placed in an iron screen. The electron beam passes for a considerable part of its passage in the equipotential space of the anode pipe. The external electric and magnetic fields have no effect on it, therefore calculation of the focussing system may be simplified by assuming that only the forces repelling the space charge are acting, and that the magnetic lens is "short". The spread of the electron beam may be calculated by the Mayns - Vatson (Russian spelling) equation

$$\frac{l_1}{r_0} = \left(\frac{l}{2m}\right)^{\frac{1}{4}} \frac{U}{I^{\frac{1}{2}}} 2\int_0^{\sqrt{\ln \frac{R}{r_0}}} l^{x^2} dx = 1.021 \frac{U^{\frac{3}{4}}(kv)}{I^{\frac{1}{2}}(amp)} F \frac{R}{r_0}, \quad (1)$$

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where e and m are the charge and the mass of electron; I - the beam current; v - the anode tube potential (in respect to the cathode). The equation (1) describes directly the initial parallel beam shape. In the magnetic lens the beam converges (Fig. 7). The article includes a calculation example. It is very approximate, and the basic dimensions for the focussing system were determined finally in experiments. The best position for the magnetic lens was found to be l_1 =120 mm and l_2 =220mm (Fig. 7), and the proper current for focussing a 150 m-amp beam at 15,000 volt to be 1000 - 1050 v-amp. The deflecting system is the same as used for TV tubes and consists of four coils connected by pairs in series and at an 180° angle. The coils are wound on special arbors and consist of 5 sections, with maximum winding density at the coil end to produce a uniform magnetic field. The formula for calculating the ampere-turns of coils (Ref. 13: M. Ya. Kulyarov, Elektronno-luchevyye pribory [Electron-beam instruments], Gosenergoizdat, 1954 is

$$IN = \frac{2.65 d_{int} \sin\beta \sqrt{U_a\ [v]}}{l_0},$$

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Equipment for precision electron-beam welding...

where d_{int} - is the internal diameter of deflecting system; l_0 - the effective coil length ($l_0 = l + 10\%l$); l - the coil length; δ - the maximum deflection angle. The undistorted deflection angle determined in experiments was 3-5°, which means that the beam may be deflected 10-15 mm off center without changing the focus. Further work is in progress on determination of beam pressure on a metal pool, during welding and heat distribution in the metal outside the weld. Conclusions. 1) The system with replaceable cathodes permits welding-current regulation between 100 w and 10 kw. 2) The high-voltage rectifier and modulator permit pulse welding. 3) The experimental unit makes possible the welding of circular and straight seams by an electron beam in a vacuum. 4) Vacuum-tight joints can be obtained on refractory metals. There are 10 figures and 15 references: 5 Soviet-bloc and 6 non-Soviet bloc. The four latest references to English-language publications read as follows: G. Burton and Wm. L. Frankhouser, Electron-beam Welding, "Welding Journal", No. 10, 38, 1959, S.401-409; Production Welding with Electrons, "Electronic Industries", April, pp 76-94, 1959; Electron-beam Welding, "American Machinist", February, 23, pp 94-98, 1959; Electron-beam Welding, "Engineering", April 1959.

SUBMITTED: December 7, 1960
Card 5/9

VOYTSENYA V.S.; GORBANYUK, A.G.; ONISHCHENKO, I.N.; SAFRONOV, D.G.

Motion of dense plasma clots in the magnetic field of a toroidal solenoid. Zhur.tekh.fiz. 34 no. 2:280-287 F '64. (MIRA 17:6)

TITLE: On the polarization of a plasma moving in a curved magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 7, 1965, 1330-1332

TOPIC TAGS: plasma, plasmoid, plasma polarization, nonhomogeneous magnetic field

field directed toward the axis of the [illegible]. In both similar measurements on plasmas moving in a toroidal magnetic field. In both groups of experiments the plasmas were produced by a conical plasma gun, passed through 2 cm diameter openings in two grounded plane electrodes, and drifted in a 6 cm diameter glass tube. In the present group of experiments the drift tube was bent into a 50 cm radius circle, thus forming a torus. Electric potentials were measured along the two principal diameters of the drift tube, i.e., parallel to the axis and to the large radius of the torus, respectively. When the radial

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ACCESSION NR: AP5018319

field that was previously found to arise in a plasma moving in a curved

agreement with the [illegible] experimentally [illegible]

in a curved magnetic field. In a DC magnetic field the main

Card 2/2 [illegible]

ABSTRACT: The authors have measured the radial electric field in plasma

L 19022-65

ACCESSION NR: AP4049054

to 10 V/cm were observed; these fields were directed toward the axis. The electric field strength was a strong function of

[illegible] the transition from the field-free region to

[illegible] might be due to processes occurring in the non-uniform field. Altering the magnetic field in the non-uniform region had very little effect on the electric field, and it is concluded that the electric field was due to the difference between the ion and electron Larmor radii in the

4/4

L 41066-66 EWT(1) IJP(c) GD/AT
ACC NR: AT6020409 (N) SOURCE CODE: UR/0000/65/000/000/0119/0129

AUTHOR: Voytsenya, V. S.; Gorbanyuk, A. G.; Onishchenko, I. N.; Safronov, G. G.; Shkoda, V. V.

89
B+1

ORG: none

TITLE: Motion of the fast plasmoids in a magnetic field of toroidal solenoid

SOURCE: AN UkrSSR. Issledovaniye plazmennykh sgustkov (Study of plasma clusters). Kiev, Naukovo dumka, 1965, 119-129

TOPIC TAGS: plasmoid, solenoid, plasma magnetic field, plasma density, plasma injection, interferometer, mass spectroscope, ion distribution

ABSTRACT: The behavior of a plasmoid moving with several kev energy was studied in order to determine its upper density limit, its purity, and attainable velocity in longitudinal magnetic fields. This work is based on the theoretical predictions of N. A. Khizhnyak (ZhTF, 1965, 35, 847) who stated that due to shortcircuiting of polarization fields by electron currents rather high densities are attainable in the plasmoids. The experimental apparatus is described showing a curved region preceded by a straight section connecting with the plasma injector. The plasmoid properties were studied with a mass spectrograph, time-of-flight mass analyzer, microwave interferometer and electric and thermocouple probes. In the experiments with low density plasma, the ion dis-

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L 41066-66

ACC NR: AT6020409 O

tribution was found to be considerably distorted. At 10^{12} cm^{-3} density, long high energy tails appear. In higher density experiments, the mean ion energy was found to be 3 to 5 kev, with an impurity content of 40%. A study of the solenoidal guiding field indicates that plasma densities higher than 10^{13} ions/cm^3 are possible if fields are increased above the 8 koe fields available to the authors. Orig. art. has: 10 figures.

SUB CODE: 20/ SUBM DATE: 11Nov65/ ORIG REF: 007/ OTH REF: 002

Card 2/2 ldh

FATEYEVA, M.N.; KLIMOV, V.S.; GORBARENKO, N.I.; DENISOVA, Ye.A.; ERINA, Ye.V.; OSTAPKOVICH, V.Ye.

Early diagnosis of chronic radiation sickness. Vest.rent. i rad. no.2:16-23 Mr-Ap '55. (MLRA 8:5)

1. Iz Instituta terapii AMN SSSR (dir. deystvitel'nyy chlen Akademii meditsinskikh nauk SSSR prof. A.L.Myasnikov)
(RADIATION SICKNESS, diagnosis)

Gorbarenko, N. I.

Determination of hyaluronidase in urine. E. P. Stepanyan and N. I. Gorbarenko (Therap. Inst., Moscow). *Byull. Eksptl. biol. i Med.* 41, No. 6, 39-41(1956).—The property of urine to depolymerize hyaluronic acid is due to other substances besides hyaluronidase. This was demonstrated by subjecting urine to prolonged boiling which destroyed the enzyme. In 41 out of 51 cases the urine exhibited after boiling a strong depolymerizing ability. The polymerizing ability of substances other than hyaluronidase appears to increase after boiling. Since the urine owes its depolymerizing property to hyaluronidase only in a small no. of cases it cannot be used as a measure of hyaluronic activity of the organism. A. S. Mirkin

2

Met

USSR/Human and Animal Physiology. The Effects of Physical Efforts. T

Abs Jour: Ref Zhur-Biol., No 20, 1958, 93746.

Author : Stepanyan, Ye. P., Klimov, V.S., Gorbarenko, N.I.
Inst :
Title : The Problem of Hyaluronidase and Histamine in the Blood of Individuals Subjected to Ionizing Radiation in Industry.

Orig Pub: Med. radiologiya, 1957, 2, No 3, 19-23.

Abstract: The amount of hyaluronidase (I) in the serum and histamine (II) in the plasma of people (21) periodically subjected to the effect of γ - and β -radiation 5 times or more higher than a safe dose (group I), people (21) subjected to the effect within a safe range (group II), and people (15) who received doses lower than safe but having contact with chemically toxic

Card : 1/2

USSR/Human and Animal Physiology. The Effects of Physical Efforts. T

Abs Jour: Ref Zhur-Biol., No 20, 1958, 93746.

substances (group III). In all the groups, I fluctuated in ranges of 2 - 10 units against 0 - 2.5 units in the control, and II in ranges of 11 - 25 % against 5 - 10 % in the control. The relative frequency of cases exceeding the control amounts was greatest in group III, and with grouping of the material according to the stage of the work with ionizing radiation - in the group with the least exposure. There was no parallelism between changes in I and II nor between fluctuations in biochemical indicators and data of the clinical examination (blood count, subjective complaints). -- E.D. Glikson.

Card : 2/2

GORBARENKO, N.I.

STEPANYAN, Ye.F.; ZLIMOV, V.S.; GORBARENKO, N.I.

Hyaluronidase activity in the blood serum of men subjected to chronic irradiation; preliminary report [with summary in English]. Vest.rent. i rad. 32 no.1:19-23 Ja-F '57. (MLRA 10:6)

1. Iz laboratorii Instituta terapii Akademii meditsinskikh nauk SSSR (dir. - deyatvitel'nyy chlen Akademii meditsinskikh nauk SSSR prof. A.L.Myasnikov)

(RADIATIONS, eff.
ionizing, chronic irradiation, eff. on hyaluronidase activity in blood)
(HYALURONIDASE, in blood
eff. of chronic ionizing irradiation)

FATEYEVA, M.N.; KLIMOV, V.S.; PONIZOVSKAYA, A.I.; GORBARENKO, N.I.; SOKOLOV, V.V.; SMIRNOVA, M.I.

Effect of Cs^{137} on the human organism. Med.rad. 5 no.7:14-19 '60. (MIRA 13:12)
(RADIATION—PHYSIOLOGICAL EFFECT) (CESIUM—ISOTOPES)

FATEYEVA, M.N.; PENIZOVSKAYA, A.I.; SOKOLOV, V.V.; GORBARENKO, N.I.; BENISOVA, Ye.A.; OSTAPKOVICH, V.Ye.

Initial reactions of the human organism to the action of ionizing radiations. Med. rad. 5 no.8:3-7 '60. (MIRA 13:12)
(RADIATION--PHYSIOLOGICAL EFFECT)

GORBARENKO, N. I. "Concerning Changes in Protein-Fraction Compositions and Hyaluronidase Enzyme (Permeability Factor) During Chronic Radiation." Hyaluronidase activity in 262 humans exposed to various intensities and durations of industrial radiation was within normal limits in all cases. Protein-fraction composition reflected no significant decline.

candidate dissertation listed in Meditsinskaya radiologiya, no. 7, 1964. The article did not state specifically what degree was awarded. The annotated titles deal with studies on radiation physiology, radiation biochemistry, combined trauma and the influence of radiation on regenerative processes, radiation microbiology and immunology, and radiation pharmacology.

GORBARENKO, P.; SAKHAROV, Yu.

Three-channel tonograph. Radio no.3:21-23 Mr '60. (MIRA 13:6)
(Tonometers)

NESTEROV, A.P.; GORBARENKO, P.G.; SAKHAROV, Yu. I.

High-frequency tonometer for measuring and recording intraocular pressure. Med. prom. 13 no.5:54-57 My '59. (MIRA 12:7)

1. Kuybyshevskiy meditsinskiy institut i 4-y gosudarstvennyy podshipnikovyy zavod.
(EYE, INSTRUMENTS AND APPARATUS FOR)
(INTRAOCULAR PRESSURE)

CORBARENKO, P.G., inzh.; SHKIL', A.D., inzh.; KRIVITSKIY, S.M., inzh.

Semiautomatic machine based on the horizontal milling machine for rough-cutting bevel gear teeth. Mashinostroenie no.2:16-20 Mr-Ap '62. (MIRA 15:4)

1. Khar'kovskiy stankozavod.
(Gear-cutting machines)

CORBAS, V.S.

Against outmoded methods of quality control. Standartizatsiia 29 no.10:25-27 O '65. (MIRA 18:12)

1. Nachal'nik otraslevoy laboratorii nadezhnosti Soveta narodnogo khozyaystva Moskovskogo gorodskogo ekonomicheskogo rayona.

BORISOV, V.P.; GORBASH, A.A.

Use of vegetable oils in the production of biomycin. Spirt.prom. 29 no.1:22-23 '63. (MIRA 16:2)

1. Nemeshayevskiy zavod kormovykh antibiotikov.
(Chlortetracycline) (Oils and fats)

BORISOV, V.P.; GALYUGA, T.N.; GORBASH, A.A.

Biosynthesis of vitamin B_{12} and its losses in the various stages of the production of vitaminized biomycin feeds. Ferm. i spirt. prom. 30 no.1:24-27 '64. (MIRA 17:11)

1. Nemeshayevskiy zavod kormovykh antibiotikov.

YURCHENKO, F.A.; BORISOV, V.P.; GORBASH, A.A.

Effect of iron on the biosynthesis of chlortetracycline. Ferm. i spirt.prom. 30 no.4:32-34 '64.

(MIRA 18:12)

1. Kiyevskiy spirtovoy trest (for Yurchenko). 2. Nemeshayevskiy zavod kormovykh antibiotikov (for Borisov, Gorbash).

BORISOV, V.P.; GORBASH, A.F.

Utilization of waste filtrate in the production of antibiotic feeds. Spirt.prom. 29 no.2:41 '63. (MIRA 16:3)

1. Nemeshayevskiy zavod kormovykh antibiotikov.
(Feeds) (Waste products)

BORISOV, V.P.; GALYUGA, T.N.; GORBASH, A.A.

Device for the control of air sterility in factories of antibiotic feeds. Spirt. prom. 28 no.6:24-25 '62. (MIRA 16:10)

1. Nemeshayevskiy zavod kormovykh antibiotikov.

GORBASHEVA, M.P.

V

COUNTRY : USSR
CATEGORY : Pharmacology and Toxicology. Analgesics

ABS. JOUR. : RZhBiol., No. 5 1959, No. 23012

AUTHOR : Sangayle, A.K.; Den'gina, N.D.; Gorbasheva, M.P.
INST. : - Chair Pharmacology, Sverdlovsk Med Inst.
TITLE : On the Combined Action of Analgesics with Aminazin

ORIG. PUB. : Farmakol. i toksikologiya, 1958, 21, No 3, 10-12

ABSTRACT : In experiments on rats by the method of pinching the tail, the analgesic action (AA) of aminazin (AM) manifested itself, beginning with the subcutaneous administration of 5 mg/kg (threshold dose) of AM. With the increase of the dosage of AM to 10-20 mg/kg, the intensity and duration of AA increased. AM intensified the AA of pyramidon to a greater degree than that of analgin.-- From the authors' summary

Card: 1/1

GORBASHOVA-VORONINA, O.S., Doc Med Sci — (diss) "Optical dis-
~~turbances~~ in tumors of the brain of various localizations and histo-
logical structure." Sverdlovsk, 1959. 29 pp incl cover (Sverdlovsk
State Med Inst). 200 copies (KL, 40-59, 105)

USSR/Human and Animal Morphology (Normal and Pathological) The Sexual Apparatus S-4

Abs Jour : Ref Zhur - Biol., No 12, 1958, No 55160

Author : Gorbasheva T.P.
Inst : Sverdlovsk Section of the All-Union Society of Anatomy, Histology and Embryology
Title : The Morphology of the Ligamentous Apparatus of the Uterus.

Orig Pub : Sb. nauchn. rabot Sverdl. otd. Vses. O-va anat., gist. i embr., 1957, vyp. 1, 44-46

Abstract : The structure of the uterine ligamentous apparatus (ULA) was examined on a total of 50 uterine specimens, which were obtained by the macro-and microscopical preparation method. ULA has a laminated structure and it represents the direct prolongation of muscular and connective fibers. The wide and uterosacral ligaments consist of two connective tissue laminae, which proceed independently to the pelvic fascia, and which contain smooth muscle fibers situated between the laminae, as well as fat cells and vessels, which are enclosed

Card : 1/2

USSR/Human and Animal Morphology - Muscles. S

Abs Jour : Ref Zhur Biol., No 5, 1959, 21523

Author : Gorbasheva, T.P.

Inst : All-Union Society of Anatomists, Histologists and Embryologists

Title : Macro- and Microscopic Data Concerning the Pelvic Fascia and Its Relationship to the Female Pelvic Organs

Orig Pub : Sb. nauchn. rabot. Sverdl. otd. Vses. o-va anatomov, gistologov i embriologov, 1957, No 1, 47-50

Abstract : A study was made of the architectonics of the pelvic fascia following staining of the elastic fibers with orcein and collagenous fibers with methyl green. In the fascia of the levator ani muscle the collagen bundles are fibrillar, parallel to one another and

Card 1/3

USSR/Human and Animal Morphology - Muscles. S

Abs Jour : Ref Zhur Biol., No 5, 1959, 21523

arranged perpendicularly to the muscle fibers. The elastic fibers form powerful bands arranged in 3 layers. In the lumbar fascia the collagenous structures formed 2 layers and the straight fibers are perpendicular to one another; fibers which are adjacent to the muscle are perpendicular to the muscle bundles. The elastic structures are arranged in 4 layers (single bundles, a large-loop and a narrow-loop network). In the obturator fascia part of the collagen fibers (base of the fascia) is arranged transversely; others are arranged either obliquely or vertically. In one layer the elastic fibers are represented by parallel delicate fibers; in the other 2, by networks. A study was also made of the topographic relationships of the visceral fascia in the area of the minor pelvis. It was shown that its 2 layers are arranged frontally and envelop the uterus

Card 2/3

USSR/Human and Animal Morphology - Muscles. S

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65339

Author : ~~Gorbashcva T.P.~~

Inst : -

Title : The Viability of the Kidney Following Ligation of the Renal Artery. An Experimental Investigation. (Preliminary Communication).

Orig Pub : Urologiya, 1957, No 6, 6-9

Abstract : A contrast material injected into the vascular system of dogs 1-2 months after ligation of one renal artery, while the collateral to that kidney were left intact, filled the vessels of the kidney which underwent the operation, which was reduced in size and in which histological examination showed necrotic foci in the cortical and medullary layers. After the injection of indigocarmine, in 50% of the cases the capacity of that kidney to excrete the dye remained, due to the presence of the collateral circulation.

Card : 1/1

GORBASHEVA, T.P., dots.

Relation of connective tissue formations to uterine blood vessels [with summary in English]. Akush. i gin. 33 no.6:65-68 N-D '57. (MIRA 11:3)

1. Iz kafedry normal'noy anatomii Sverdlovskogo meditsinskogo instituta.

(UTERUS, anat. and histol.
connective tissue structure, relation to anat. & physiol. of blood vessels)

USSR/Human and Animal Physiology (Normal and Pathological) T
Blood Circulation. Vessels.

Abs Jour : Ref Zhur Biol., No 6, 1959, 26620

Author : Gorbasheva, T.P.
Inst :
Title : The Creation of Artificial Blood Circulation of the Kidney.

Orig Pub : Arkhiv anatomii, gistol. i embriologii, 1957, 34, No 4, 77-81

Abstract : 4 consecutive operations were performed on dogs at intervals of 1 month : decapsulation of the kidney and its wrapping into omentum; ligation of one of the two branches of the renal artery; removal of healthy kidney, and finally, complete ligation of the artery of the remaining kidney. Arterialization of the kidney at the expense of newly intergrowing vessels from omentum was sufficient for survival of animals and preservation of functioning

Card 1/2

USSR/Human and Animal Physiology (Normal and Pathological) T
Blood Circulation. Vessels.

Abs Jour : Ref Zhur Biol., No 6, 1959, 26620

kidney tissue. Blood supply of the kidney was confirmed roentgenologically and with corrosive preparations, and its functional ability was proved on the basis of laboratory investigations. -- G.M. Akinfin

Card 2/2

GORBASHEVA, T.P., doktor med.nauk

Viability of the kidney following omentization and ligation of the renal vein. Urologiia 23 no.3:7-10 My-Je '58 (MIRA 11:6)

1. Iz kafedry normal'noy anatomii Sverdlovskogo meditsinskogo instituta.

(KIDNEYS, surg.
decapsulation, omentization & ligation of renal vein, eff. on viability in animals (Rus))

GORBASHEVA, T.P., doktor med. nauk.

Restoration of blood circulation in the kidney after trauma and ligation of branches of the renal artery. Urologiia 23 no.6:3-5 N-D '58. (MIRA 11:12)

1. Iz kafedry normal'noy anatomii Sverdlovskogo meditsinskogo instituta.

(KIDNEYS, blood supply
restoration of circ. after trauma & ligation of branches of renal artery in dogs (Rus))

GORBASHEVA, T.P.; PUSHKAREV, L.N.

New data on resection of the posterior [i.e.,inferior] vena cava craniad to the inflow of the renal veins. Arkh. anat., gist. i embr. 42 no.5:50-57 My '62. (MIRA 15:6)

1. Kafedra normal'noy anatomii (zav. - prof. T.P. Gorbasheva) Sverdlovskogo meditsinskogo instituta.
(VENA CAVA--SURGERY)
(RENAL VEIN)

GORBUNOVA, T.P. (Sverdlovsk, Moskovskaya ul., 29, kv.1)

Role of newly formed and existing collaterals in the restoration of blood circulation in some organs of the abdominal cavity. Arkh. anat. gist. i embr. 43 no.10:55-63 O '62. (MIRA 16:6)

1. Kafedra normal'noy anatomii (zav. - prof. T.I. Gerbastova) Sverdlovskogo meditsinskogo instituta.

GORBASHKO, A.I. (Leningrad, Novocherkasskiy prospekt, 25, kv.48); ROGOZOV, L.I.; FEDOTKIN, D.V.

Topography of the principal vessels of the stomach and their significance in surgery. Vest. khir. 92 no.3:49-55 Mr '64.

(MIRA 17:12)

1. Iz fakul'tetskoy khirurgicheskoy kliniki (zav. - prof. A.A.Rusanov) Leningradskogo pediatricheskogo meditsinskogo instituta i ob"yedinennoy bol'nitsy imeni Kuybysheva (glavnyy vrach - Ye.V.Mamysheva).

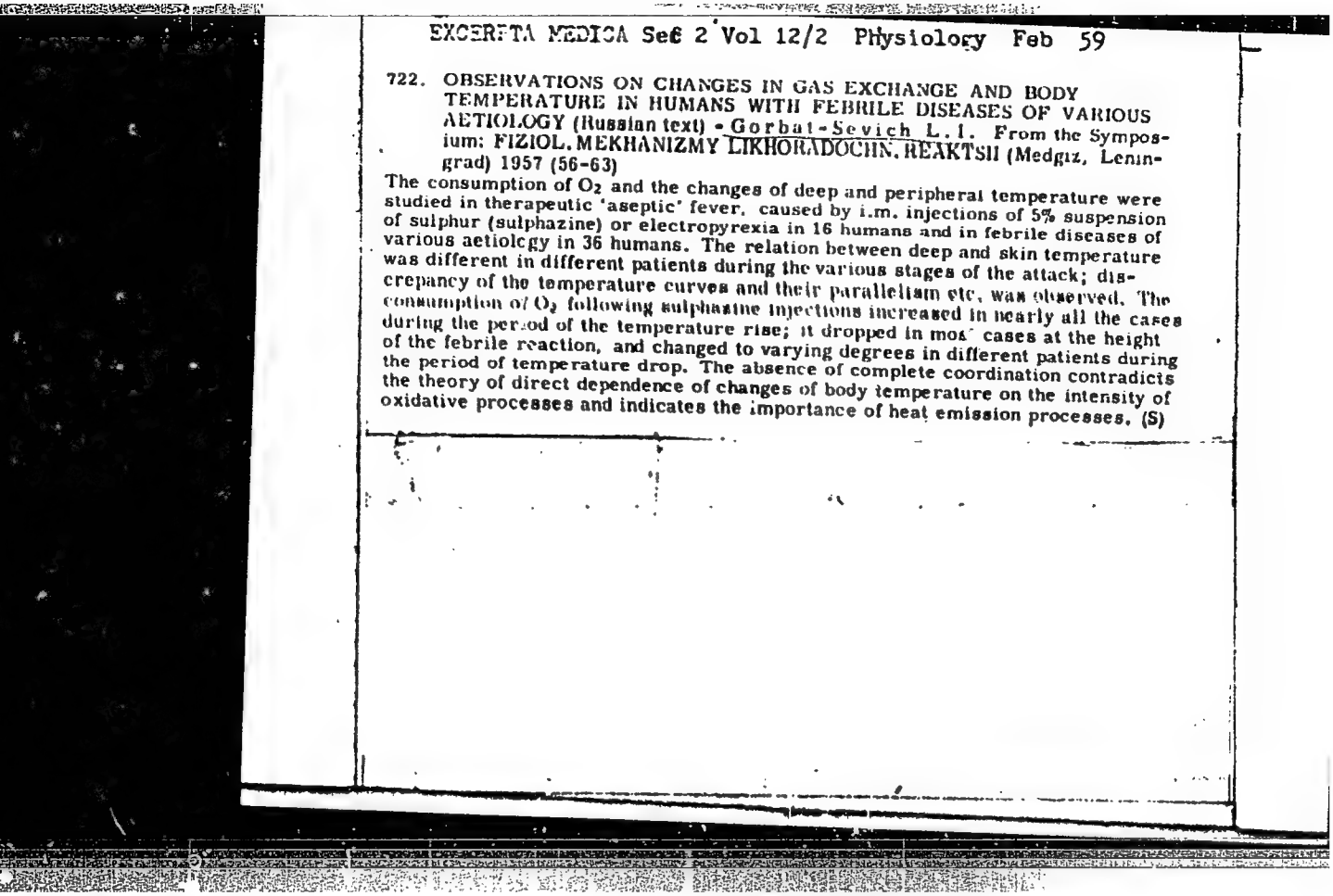
PANFIL', L.S., inzh.; MARFIN, N.I., inzh.; GORBASHOV, S.G., inzh.

Centrifuged reinforced concrete supports to be used in areas with high ground-water level. Transp.stroi. 9 no.9:39-40 S '59. (MIRA 13:2)
(Electric lines--Poles)
(Precast concrete construction)

GORBASHKO, A.I. (Leningrad, Novocherkasskiy pr. d.25, kv.48)

Determining the dimensions for resection of the stomach in peptic ulcers. Vest.khir. 89 no.11:19-24 N '62. (MIRA 16:2)

1. Iz kliniki fakul'tetskoy khirurgii (zav. - prof. A.A. Rusanov) Leningradskogo pediatricheskogo meditsinskogo instituta (direktor dotsent Ye.P. Semenova) i Ob"yedinennoy bol'nitsy imeni V.V. Kuybysheva (glavnyy vrach - Ye.V. Mamysheva).
(PEPTIC ULCER) (STOMACH--SURGERY)



722. OBSERVATIONS ON CHANGES IN GAS EXCHANGE AND BODY TEMPERATURE IN HUMANS WITH FEBRILE DISEASES OF VARIOUS AETIOLOGY (Russian text) • Gorbat-Sevich L.I. From the Symposium: FIZIOL. MEKHANIZMY LIKHORADOCHN. REAKTSII (Medgiz, Leningrad) 1957 (56-63)

The consumption of O_2 and the changes of deep and peripheral temperature were studied in therapeutic 'aseptic' fever, caused by i.m. injections of 5% suspension of sulphur (sulphazine) or electropyrexia in 16 humans and in febrile diseases of various aetiology in 36 humans. The relation between deep and skin temperature was different in different patients during the various stages of the attack; discrepancy of the temperature curves and their parallelism etc, was observed. The consumption of O_2 following sulphazine injections increased in nearly all the cases during the period of the temperature rise; it dropped in most cases at the height of the febrile reaction, and changed to varying degrees in different patients during the period of temperature drop. The absence of complete coordination contradicts the theory of direct dependence of changes of body temperature on the intensity of oxidative processes and indicates the importance of heat emission processes. (S)

USSR/ Chemistry - General chemistry

Card 1/1 Pub. 116 - 7/24

Authors : Pyatnitskiy, I. V., and Gorbataya, A. I.

Title : About the composition and stability of a tartrate iron complex

Periodical : Ukr. khim. zhur. 21/ 182-194, 1955

Abstract : Investigation was conducted to determine the composition, stability and structure of a yellow complex tartrate iron in solution. The pH limits within which the formation of the yellow complex takes place were established. Results obtained by the polarographic and potentiometric methods are tabulated. Ten references: 3 USSR, 4 German and 3 USA (1900-1949). Tables; graphs.

Institution : The T. H. Shevchenko State University, Kiev

Submitted : December 12, 1953

GORBATENKO, A., general-leytenant

Increase the activity and combativeness of every party organization. Komm. Vooruzh. Sil 4 no.3:17-16 F '64.
(MIRA 17:3)

1. Nachal'nik partiyno-organizatsionnogo upravleniya Glavnogo politicheskogo upravleniya Sovetskoy Armii i Voyenno-Morskogo Flota.

GORBATENKO, A. G.

Treatment of peptic and duodenal ulcer with bikalin. Vrach. delo no.6:150-151 Je '62. (MIRA 15:7)

1. Gorodskaya bol'nitsa, Pereyaslav-Khmel'nitskiy.

(DIGESTIVE ORGANS—ULCERS) (BISMUTH)

MOLOTOK, A.V.; DMITRIYEV, A.I.; GORBATENKO, A.I.; SHAROYAN-SARINGULYAN, G.P.; MALAKHOV, P.Ye.; KRIVOUKHOV, V.A., doktor tekhn.nauk; red.; GRANOVSKIY, G.I., prof., doktor tekhn.nauk, red.; TRET'YAKOV, I.P., prof., doktor tekhn.nauk, red.; ALEKSEYEV, S.A., dotsent, red.; MALOV, A.N., dotsent, kand.tekhn.nauk, red.; SHAKHNAZAROV, M.M., dotsent, red.; VOL'SKIY, V.S., red.; GAL'TSOV, A.D., red.; KABANOV, N.Ya., red.; TOLCHENOV, T.V., red.; KHARITONOV, A.B., red.; KHISIN, R.I., red.; SHOR, M.I., red.; SEMENOVA, M.M., red. izd-va; EL'KIND, V.D., tekhn.red.

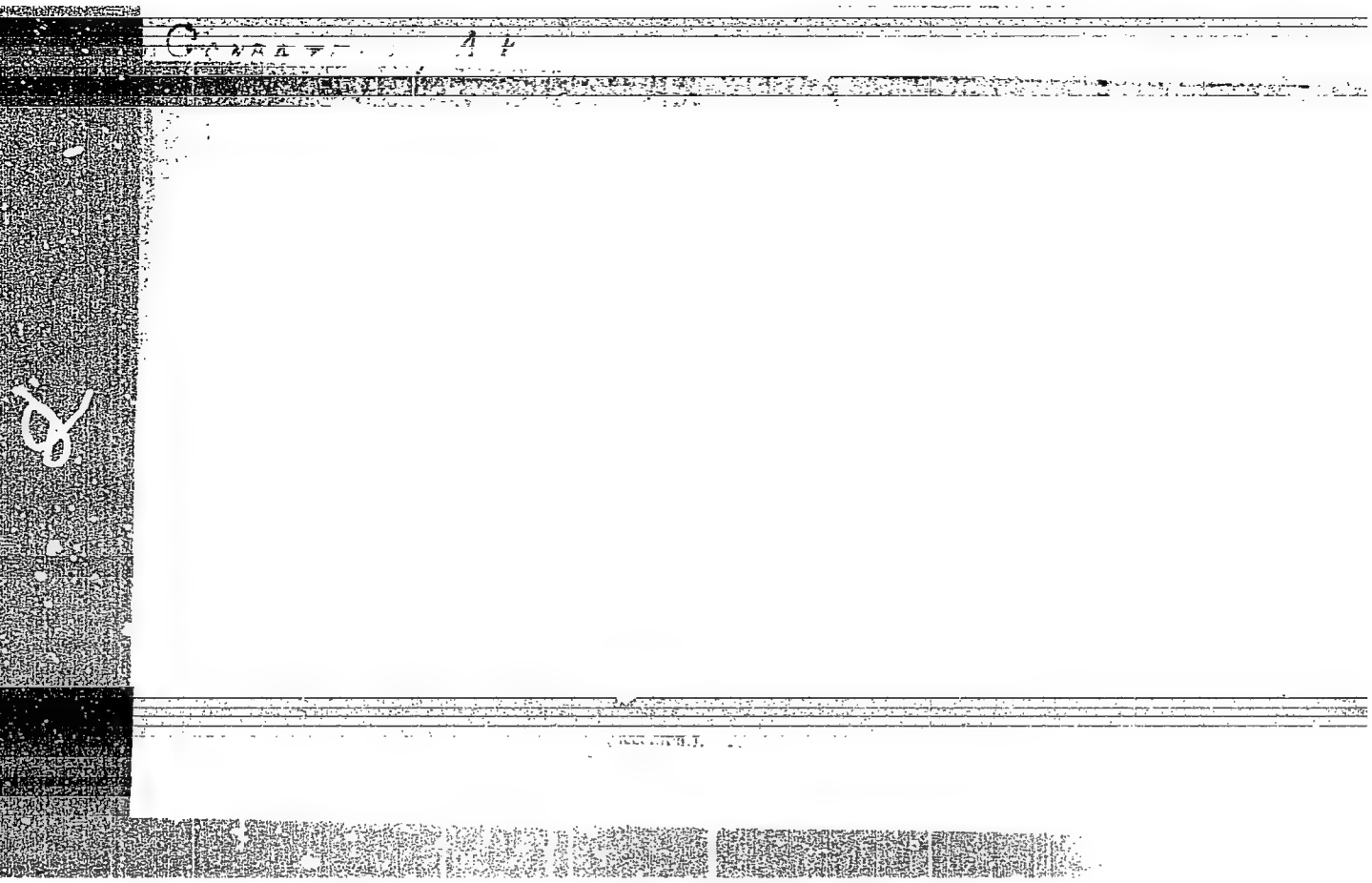
[Time norms in general machinery manufacturing for applying coats of lacquer; large, medium, and small scale production] Obshchemashinostroitel'nye normativy vremeni na lakokrasochnye pokrytiia; krupnoseriinoe, seriinoe i melkoseriinoe proizvodstvo. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1959. 83 p. (MIRA 12:6)

1. Moscow. Nauchno-issledovatel'skiy institut truda. TSentral'-noye byuro promyshlennykh normativov po trudu. 2. Rabotniki otdela trudovykh normativov Nauchno-issledovatel'skogo instituta traktorosel'khozmasha (for Molotok, Dmitriyev, Gorbatenko, Sharoyan-Saringulyan, Malakhov).
(Painting, Industrial) (Machinery industry)

MALAKHOV, P.Ye.; MOLOTOK, A.V.; DMITRIYEV, A.I.; GORBATENKO, A.I.; IONOVA, Ye.P.; BARANOV, B.A., inzh., red.; DOBRITSYNA, R.I., tekhn. red.

[General time norms used in machinery manufacturing for establishing machine-work norms in woodworking shops; mass, large lot, andlot production] Obshchemashinostroitel'nye normativy vremeni dlia normirovaniia stanochnykh rabot v derevoobrabatyvaiushchikh tsekhakh; massovoe, krupnoseriinoe i seriinoe proizvodstvo. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1961. 78 p.
(MIRA 14:10)

1. Moscow. TSentral'noye byuro promyshlennykh normativov po trudu. 2. Nauchno-issledovatel'skiy institut tekhnologii traktornogo i sel'skokhozyaystvennogo mashinostroyeniya (for Malakhov, Molotok, Dmitriyev, Gorbatenko, Ionova).
(Machinery industry) (Woodworking)



GORBATENKO, A.K.; KAMENETSKAYA, D.S., kand.fiz.-mat.nauk

Shape of equilibrium diagrams for binary alloys. Probl.metalloved.i fiz.met. no.6:191-195 '59. (MIRA 12:8)
(Phase rule and equillibrium) (Alloys)

S/137/62/000/003/106/191
A060/A101

AUTHORS: Gorbatenko, A. K., Kamenetskaya, D. S.

TITLE: On the shape of equilibrium curves of binary alloys

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 3, 1962, 7, abstract 3I42 ("Sb. tr. In-t metalloved. infiz. metallov. Tsentr. n.-i. in-ta chernoy metallurgii", 1959, 6, 191-195)

TEXT: Using the example of a state diagram of a system demonstrating the formation of a continuous series of solid solutions and using a particular case (the Au - Pt system), an analysis was carried out of the variation in the shape of equilibrium curves (in particular, of the solidus line) as a function of a change in the parameters characterizing the intermolecular interaction. There are 8 references.

Z. Rogachevskaya

[Abstracter's note: Complete translation]

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S/081/62/000/017/016/102
B166/B180

AUTHORS: Gorbatenko, A. K., Kamenetskaya, D. S.

TITLE: The shape of the equilibrium curves of binary alloys

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 17, 1962, 47, abstract 17B314 (Sb. tr. In-t met lloved. i fiz. metallov Tsentr. n.-i. in-ta chernoy metallurgii, v. 6, 1959, 191-195)

TEXT: An equation is suggested which shows the relation between the constitution diagram and the parameters which characterize the interaction between the components of a system (concentrations, entropies, heats of melting and melting points of the components, and mixing energies of both phases) for binary alloys forming continuous series of solid solutions. The equation has been tried out on the Au - Pt system. The experimental liquidus line of this system was found to coincide with the theoretical. [Abstracter's note: Complete translation.]

Card 1/1

GORBATENKO, A.V., Cand Med Sci—(diss) "The extra-secretory ~~external secretion~~ function of the pancreas under conditions of complete elimination of gastric secretion." Kursk, 1957. 18 pp incl cover (Second Mor State Med Inst im N.I. Pirogov), 200 copies (KL,28-58,113)

VAVRUKH, A.T., inzh.; GORBATENKO, A.Ye., inzh.

Organize steady ventilation of gassy mines. Bezop.truda v prom. 3 no.2:9-10 F '59. (MIRA 12:2)
(Mine ventilation)

GOREATENKO, G.

Criticizing. NTO 3 no.6:29 Je '61. (MIRA 14:6)

1. Predsedatel' proizvodstvenno-massovoy komissii profkoma stankostroitel'nogo zavoda imeni S.M.Kirova, g. Tbilisi.
(Tiflis--Machine-tool industry)

GORBATENKO, G.

Increase the efficiency of production conferences. Sov. profsoiuzy 17 no.5:17-18 Mr '61. (MIRA 14:2)

1. Predsedatel' proizvodstvenno-massovoy komissii zavkoma profsoyuza. (Tiflis—Machine-tool industry)
(Works councils)

GORDATEN'KIY, G.G.; BYZGU, S.Yo.

Hydrochemical characteristics of small reservoirs of Moldavia.
Biol. res. vod. Mold. no.2:24-59 '64.
(MIRA 18:10)

SOV/121-58-10-16/25

AUTHOR: Gorbatenko, G.M.

TITLE: A Testing Machine for Mooring Fittings (Mashina dlya Ispytaniya Chalochnykh Prisposobleniy)

PERIODICAL: Stanki i Instrument, 1958, Nr 10, p 37 (USSR)

ABSTRACT: A testing machine specially built by the Tbilisi Machine Tool Works (Tbilisskiy Stankostroitel'nyy zavod) "Imeni Kirov" for the testing of mooring fittings is shown in outline together with its hydraulic circuit. A load of up to 20,000 kg is applied by a hydraulic cylinder. Two smaller cylinders serve to return the ram. The tested rope or chain is attached between the short arm of a bellcrank forming part of a lever scale and a special fitting connected to a crossbar of the hydraulic ram through a turnbuckle and a

Card 1/2

A Testing Machine for Mooring Fittings

self-aligning link. The hydraulic system has a fast displacement and a slow loading motion. There is 1 illustration.

GORBATENKO, G.M

Good results have been obtained. Mashinostroitel' no.2:39-40 F '65. (MIRA 18:3)

GORBATENKO, G.M.

Forms and methods of promoting advanced practices at the S.M. Kirov Machine Tool Plant in Tiflis. NTI no.8:23-24 '65. (MIRA 18:9)

1. Starshiy inzh. po tekhnicheskoy informatsii Tbilisskogo stankostroitel'nogo zavoda im. S.M. Kirova.

S/028/60/000/010/011/020
B013/B063

AUTHORS: Gorbatenko, I. V., Sokol, I Ya.

TITLE: Experience Gathered in the Production of Stainless Steel Sheet

PERIODICAL: Standartizatsiya, 1960, No. 10, pp. 44 - 45

TEXT: This "Letter to the Editor" deals with the standards ГОСТ 5582-50 (GOST 5582-50), GOST 5632-51, and ЧМТУ 3126-52 (ChMTU 3126-52) which refer to the production of stainless steel sheet and strips. The recommendations made there for heat treatment (GOST 5582-50 (Table 1) and ChMTU 3126-52 (Table 2)) do not always guarantee a high quality of sheet. Therefore, the suggestion is made to alter the heat treatment of steel sheet of the types 1X13 - 2X13 (1Kh13 and 2Kh13) and X17H2 (Kh17N2) in such a way that the sheet is cold-rolled, not after annealing, but after drawing. On the strength of published data, supported by practical experience, an optimum ratio of hardness to plasticity in the cold-hardened state can be guaranteed for steel sheet and strips having the lowest content of nickel (8-9%) specified in GOST 5632-51 (Table). Specimens made of steels with

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Experience Gathered in the Production of Stainless Steel Sheet

S/028/60/000/010/011/020
B013/B063

different nickel contents have shown that cold-hardened metal with a low content of nickel has excellent mechanical properties. This is due to the low stability of austenite and results from the formation of martensitic structure which, in turn, increases the hardness of the metal. There is 1 table.

ASSOCIATION: Zavod "Serp i Molot" ("Serp i Molot" Plant)

Card 2/2

ZHETVIN, N.P., kand.tekhn.nauk; GORBATENKO, I.V., inzh.; KONTSEVAYA, Ye.M., inzh.

Effect of chemical composition on the properties of peened Kh18N9 steel. Metalloved. i term. obr. met. no.1:45-41 Ja '63. (MIRA 16:2)

1. Zavod "Serp i molot".
(Steel alloys—Testing)

SOV/92-58-1-7/22

AUTHOR: Gorbatenko, K. G., Senior Operator

TITLE: Three Hundred Sixteen Days Without Overhaul (316 sutok bez remonta)

PERIODICAL: Neftyanik, 1958, Nr 1, pp. 9-12 (USSR)

ABSTRACT: There are different ways to boost refinery output. One of them is to lengthen the operating cycle of a processing unit. With this aim in mind refiners of the new Groznyy refinery have made a number of alterations in the equipment of the catalytic cracking unit. The most serious defect of this unit was that the coils of the regenerator water-cooling system were getting out of commission too early. Therefore, following the suggestion of the refinery's chief engineer, Prigornev, and unit heads Pugachev and Yershov, the regenerator cooling system was modified, the number of coil tubes was reduced by 50 percent, coil pitch was increased from 100 mm. to 200 mm. and seamless tubes were installed instead of tubes with welded joints.

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Three Hundred Sixteen Days Without Overhaul

When this reconstruction of the unit was completed, it was decided to extend the operating cycle of the unit and to pay a bonus to operators who succeeded in running the unit 200 days without interruption. At the same time an appeal to all Groznyy refiners was published in the newspaper "Groznenskiy Rabochiy" in which they were requested to extend the operating cycle of units. As a result, operators of the catalytic cracking unit pledged to run the unit for 250 days without shutting it down for an overhaul. Numerous difficulties, especially in connection with catalyst circulation, were encountered before refiners could break this record. It was necessary to ensure a uniform charge of the catalyst into the reactor section, and to see that the catalyst circulated continuously. Since failures of the cooling system tubes were most frequently caused by salt deposits on the tube walls, it was decided to use condensed steam instead of water. Moreover, the refinery technical council has decided to take measures to prevent the catalyst from overheating and to to improve operating conditions in the regenerator. Formerly, the assistant operator in charge of dosimeters worked in an overheated place, and regulated

Three Hundred Sixteen Days Without Overhaul

the catalyst level in hoppers by turning gate valves manually. As a result of the introduction of automation, he is now able to work in the control room, where he does his job by merely pressing buttons. Due to the efforts of refinery personnel the operating cycle of the catalytic cracking unit was extended first to 250 days, and later to 316 days, during which time the unit operated without being overhauled. As a reult, in 1957, the unit was kept on steam 30 days longer than previously and this helped to save over half a million rubles, 360 tons of liquid fuel, and 2200 tons of steam. This was achieved partly as a result of high qualifications for refinery workers, whose training was substantially improved. At present the supply of air to upper sections of the regenerator is reduced to a minimum, while the supply of air to lower sections is increased. The air supply is controlled by an analysis of flue gases taken from various unit sections. Efforts are being made to keep the content of oxygen in outgoing gases under 2-3 percent and the content of carbon monoxide under 0.5 percent. There are 2 photographs, one showing a group of operators who succeeded in extending the unit operating

Three Hundred Sixteen Days Without Overhaul

cycle, and the other showing the electrical desalting unit recently put into operation at the Groznyy refinery.

ASSOCIATION: Novogroznenskiy NPZ

1. Refineries—Operation 2. Refineries—Maintenance
3. Petroleum—Fractionation 4. Pictures

Card 4/4

VERKHOVODOV, P.A.; GORBATENKO, L.S.

Use of scattered radiation in the X-ray spectrum analysis of molybdenum. Zav.lab. 30 no.6: 691-694 '64

1. Sibirskiy gosudarstvennyy proyektnyy i nauchno-issledovatel'skiy institut tsvetnoy metallurgii.

S/781/62/000/000/007/036

AUTHOR: Faynberg, Ya. B., Gorbatenko, M. [illegible], Kurilko, V. I.

TITLE: Cerenkov radiation in a bounded gyrotropic medium

PERIODICAL: Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza; doklady I konferentsii po fizike plazmy i probleme upravlyayemykh termoyadernykh reaktsiy. Fiz.-tech. inst. AN Ukr. SSR. Kiev, Izd-vo AN Ukr. SSR, 1962, 34-39.

TEXT: The dispersion properties of a plasma column in a magnetic field differ appreciably from the dispersion properties of an unbounded plasma in a magnetic field, and consequently the interaction between a uniformly moving particle with the fields of a plasma waveguide placed in a magnetic field are of interest. Most previous investigations have dealt with the interaction between a charged particle with electromagnetic waves in unbounded unisotropic and gyrotropic media.

Maxwell's equations in the region occupied by the plasma are solved in straightforward manner, but the expressions are too cumbersome in general, and are interpreted only for

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several limiting cases.

In the case of zero external magnetic field, the retardation due to the Cerenkov effect turns out to be smaller than that due to polarization losses both in the case of small radii and small densities of the plasma.

It can be shown, however, that when the Cerenkov frequency is much smaller than the polarization frequency, a plasmoid may turn out to be coherent with respect to the Cerenkov radiation and incoherent with respect to the polarization losses, and then the Cerenkov losses may prove larger than the polarization losses if the particle density in the plasmoid is high. The author consequently evaluates the losses in each portion of the spectrum separately, regardless of their relative magnitude.

The conditions under which electronic resonance and ion cyclotron resonance are exicited are also investigated.

There are eight references, of which only the paper by E. Fermi (Phys. Rev. 57, 485, 1940) is in English.

S/781/62/000/000/008/036

AUTHOR: Gorbatenko, M. F.

TITLE: Interaction of electron beam with a plasma in a magnetic field

PERIODICAL: Fizika plazmy i problemy upravlyayemogo termoyadernogo sinteza; doklady I konferentsii po fizike plazmy i probleme upravlyayemykh termoyadernykh reaktsiy. Fiz.-tech. inst. AN Ukr. SSR. Kiev, Izd-vo AN Ukr. SSR, 1962, 39-45.

TEXT: The equations for a beam of charged particles interacting with a plasma in a longitudinal homogeneous and constant magnetic field are derived with an aim towards investigating the formation and acceleration of runaway electrons and the stability of the plasma, as well as towards determining new methods of amplification and generation of microwaves.

The treatment is in the hydrodynamic approximation and deals with the excitation of the ion-cyclotron frequency in the interaction between an unbounded electron beam with an unbounded plasma in a constant magnetic field, the excitation of the Koerper resonant frequency, and excitation at frequency close to the natural frequency of the plasma. The interaction between an electron beam with a plasma in a magnetic field and bounded by a metallic case is

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Interaction of electron beam with a plasma . . .

considered for certain specific values of the radii of the beam, plasma, and case as well as for certain limiting frequencies. Also considered is the interaction between a bounded electron beam and a bounded plasma for both infinitely large and vanishingly small magnetic field.

Ya. B. Faynberg is credited with suggesting the topic. There are no references but mention to work by G. I. Budker (1963) and by Linhart (1960) is made in connection with certain stability criteria.

S/185/62/007/003/001/015
D299/D301

24.6716

AUTHOR: Gorbatenko, M.F

TITLE: Interaction of an electron beam with a plasma

PERIODICAL: Ukrayins'kyy fizychnyy zhurnal, v. 7, no. 3, 1962, 233 - 242

TEXT: The interaction is considered between a finite electron beam and a plasma in the absence of an external magnetic field. The dispersion equations are derived. The instability conditions of the system electron beam-plasma are obtained for the case of a thin beam, as well as the limiting wavelengths and the increments. The original system of equations is linearized. Only axially-symmetric waves are considered. From the linearized equations, the velocity components of the ions and electrons of the beam and plasma are determined as a function of the field components E and H. The external constant, homogeneous, magnetic field is directed along the z-axis. A system of equations is obtained for the components of the electric- and magnetic

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fields. In the case under consideration, the slow waves can be only E-waves. These are described by the equations

$$ik_3E_\rho - ikH_\varphi = \frac{\partial E_z}{\partial \rho},$$
$$-ia_1'E_\rho + ia_4'H_\varphi = 0, \qquad (26)$$
$$-a_6'\Delta_1'E_\rho - a_9'\Delta_1'H_\varphi = ia_5E_z,$$

where the coefficients a are given by expressions involving the Larmor frequency Ω_e of electrons, the projection of the wave vector k_3 on the z-axis, and the velocity components. Making use of the boundary conditions, one obtains the dispersion equation which determines k_3 as a function of the frequency, with given parameters of the system plasma -beam, viz.:

$$\begin{aligned} &\sigma a_6 J_1(\sigma a)\{\varepsilon_2\bar{\varkappa}K_0(\bar{\varkappa}b)[I_0(\sigma a)K_1(\sigma b)+I_1(\sigma b)K_0(\sigma a)]+ \\ &+\sigma K_1(\bar{\varkappa}b)[I_0(\sigma b)K_0(\sigma a)-I_0(\sigma a)K_0(\sigma b)]\}- \\ &-ka\varepsilon_3 J_0(\sigma a)\{\varepsilon_2\bar{\varkappa}K_0(\bar{\varkappa}b)[I_1(\sigma a)K_1(\sigma b)-I_1(\sigma b)K_1(\sigma a)]- \\ &-\sigma K_1(\bar{\varkappa}b)[I_0(\sigma b)K_1(\sigma a)+I_1(\sigma a)K_0(\sigma b)]\}=0. \end{aligned} \qquad (37)$$

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(41)

From Eq. (41), the increment $\mathrm{Im}\omega$ is obtained. 2) $a \to 0$, $b \gg \lambda_q / 4$; in this case Eq. (39) becomes

$$\frac{\omega_{c0}'^2}{\omega^2} + \frac{\Omega_{c0}^2}{(\omega - k_3 v_{c0})^2} \cdot \frac{k_3^2 a^2}{2} \left[\ln \frac{2}{\gamma_0 k_3 a \psi(k_3)} \right] = 1, \qquad (53)$$

where $\psi(k_3) = e^{\pi e} - 2k_3 b$. The instability condition is

$$\frac{k_3^2 v_{c0}^2}{\omega_{c0}'^2} > 1 + 3 \left[\frac{k_3^2 a^2 \Omega_{c0}^2}{2\omega_{c0}'^2} \ln \frac{2}{\gamma_0 k_3 a \psi(k_3)} \right]^{1/3}. \qquad (54)$$

Eq. (40) is also considered in 2 limiting cases. In the first case, the instability condition is

$$\ln \frac{2}{\gamma_0 k_3 b} < \frac{2v_{c0}^2}{\omega_{c0}'^2 b^2} \left[1 - 3 \left(\frac{a^2 \Omega_{c0}^2}{b^2 \omega_{c0}'^2} \right)^{1/3} \right], \quad \gamma_0 = 1{,}781\ldots \qquad (58)$$

From Eq. (58), one obtains the limiting wavelength:

$$\lambda_{\lim} = \frac{\pi \gamma_0 b}{2} e^{\frac{2v_{c0}^2}{\omega_{c0}'^2 b^2} \left[1 - 3 \left(\frac{a^2 \Omega_{c0}^2}{b^2 \omega_{c0}'^2} \right)^{1/3} \right]}. \qquad (59)$$

From Eq. (58) it follows that all the waves which are longer than the limiting wavelength, are strengthened. There are 2 references: 1 Soviet -bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: P.A. Sturrock, Phys. Rev., 117, 1426, 1960.

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GORBATENKO, M.F.

Interaction between an electron beam and a plasma. Zhur. tekh. fiz. 33 no.2:173-176 F '63. (MIRA 16:5)

1. Fiziko-tekhnicheskiy institut AN UkrSSR, Khar'kov.
(Electron beams) (Plasma (Ionized gases))

GORBATENKO, M.F.

Interaction of an electron beam with a plasma in a magnetic field. Zhur. tekh. fiz. 33 no.9:1070-1079 S '63.
(MIRA 16:11)

1. Fiziko-tekhnicheskiy institut AN UkrSSR, Khar'kov.

ACCESSION NR: AP4040324 S/0057/64/034/006/1136/1138

AUTHOR: Gorbatenko, M.F.; Kurilko, V.I.

TITLE: Contribution to the kinetic theory of surface waves in a plasma (Letter to the editor)

SOURCE: Zhurnal tekhnicheskoy fiziki, v.34, no.6, 1964, 1136-1138

TOPIC TAGS: plasma, surface wave; plasma physics, plasma wave propagation

ABSTRACT: The dispersion equation is derived for the propagation of surface waves at the boundary between a plasma and the vacuum, for the case that the electron temperature is small but not zero. Maxwell's equations and the kinetic equation for small deviations of the electron distribution function from the Maxwellian form are subjected to a Laplace transformation with respect to the coordinate perpendicular to the plasma-vacuum surface. The collision integral and the kinetic pressure of the electrons are neglected. The impedance of the plasma is calculated and the dispersion equation is derived by equating this to the impedance of the vacuum. The resulting dispersion equation reduces to that discussed by Ya.B.Faynberg and M.F. Gorbatenko (ZhTF 29,546,1959) for vanishing electron temperature. The damping cons-

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tant is found to be proportional to the thermal velocity of the electrons. This damping is said to be a result of Cherenkov absorption of the energy of the waves by the thermal electrons of the plasma, and the slower waves, with which the electrons can interact, are said to represent the short wavelength Fourier components of the field of the surface waves in the plasma. "In conclusion we take the occasion to express our sincere gratitude to Ya.B.Faynberg for suggesting the topic and for valuable discussions." Orig.art.has: 12 formulas.

ASSOCIATION: none

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ACCESSION NR: AT5007973 GS/AT/JXT S/0000/64/000/000/1023/1029

AUTHOR: Berezin, A. K.; Berezina, G. P.; Bolotin, L. I.; Gorbatenko, M. F.; Yegorov, A. M.; Zagorodnov, O. G.; Kornilov, B. A.; Kurilko, V. I.; Lutsenko, Ye. I.; Laypkalo, Yu. M.; Pedenko, N. S.; Kharchenko, I. F.; Shapiro, V. D.; Shevchenko, V. I.; Faynberg, Ya. B.

TITLE: Acceleration of charged particles with the aid of longitudinal waves in plasma and plasma waveguides

SOURCE: International Conference on High Energy Accelerators. Dubna, 1963. Trudy. Moscow, Atomizdat, 1964, 1023-1029

TOPIC TAGS: high energy accelerator, electron beam, plasma accelerator, plasma waveguide

ABSTRACT: Plasma waveguides and noncompensated electron and ion beams can be utilized as accelerating systems in linear accelerators (Faynberg, Ya. B., Symposium CERN 1, 84 1956); *Atomnaya energiya* 6, 431 (1959)). In such systems, slow electromagnetic waves $v_\phi \leq c$ are propatated, which are necessary for particle acceleration. The waveguide properties of restrained plasma and noncompensated beams are displayed in the case of waves in the meter and centimeter range even for com-

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paratively small plasma densities around 10^9 to 10^{13} cm^{-3}). Under these conditions the high-frequency energy losses during wave propagation, which are due to the collisions of plasma particles, are small. The density of electrons in metals (about 10^{23}) is many orders greater than is necessary for ensuring waveguide properties in the microwave range. This leads to great losses of high-frequency power during wave propagation in metallic conductors. For plasma densities around 10^9 to 10^{13} cm^{-3}, the energy losses during particle transist through the plasma, which are proportional to plasma density, are insignificant, from 10^{-5} to 10^{-6} ev/cm. This means that plasma waveguides are "transparent" for accelerated particles. According to the conditions of acceleration the particles are divided into individual bunches. Thus the loss of particles moving in the plasma can increase greatly because of the occurrence of coherent deceleration representing the inverse of the effect of coherent acceleration, which was established by V. I. Veksler (Symposium CERN 1, 80 (1956)). However, even for accelerated particle fluxes of the order of tens of amperes, these losses are all insignificant. Because waveguide properties are determined by the plasma, the metal surfaces can be remote from regions with large field strengths or eliminated altogether, which permits a significant increase in the permissible voltages of the accelerating fields and a substantial de-